

# RAMTOP

DECEMBER

1985



Merry Christmas  
And  
Happy New Year  
To all of you,  
RAMTOP Readers  
and members of  
The Greater  
Cleveland E-3  
User Group!  
from  
The Staff

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WEST SIDE GROUP MEETS AT GETHSEMANE LUTHERAN CHURCH  
14560 MADISON AVE. LAKEWOOD, OHIO 7:30 P.M.  
EVERY THIRD FRIDAY EACH MONTH (EXCEPT DECEMBER)  
CONTACT: DICK SIEG (216) 433-4387

EAST SIDE GROUP MEETS AT THE EUCLID SQUARE MALL  
IN THE EUCLIDIAN ROOM 7:30 P.M.  
EVERY FIRST FRIDAY EACH MONTH  
CONTACT: MAX SCHOENFELD (216) 371-1096

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A short note to our friends from other newsletters and magazines. You are welcome to use any of our material, news, adds, or programs if YOU: (1) Tell where it came from (RAMTOP Cleveland, Ohio) and (2) The author's name that wrote the article. We would appreciate it if you would send us a copy of the newsletter that it appeared in! Unless otherwise notified we will do the same.

THANK YOU FOR YOUR INTEREST IN OUR NEWSLETTER!

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## T/S RESOURCES

\*\*\*\*\*  
news/rumors  
hardware software literature  
DEC. 1985 by Andy Kosiorek

### SINCLAIR 1986

- - The ENIGMA
- - The PANDORA
- - The SPECTRUM PLUS-PLUS  
with Hamster

If Sinclair survives, 1986 may be a most interesting year. Last month I reported some brief details on the 128K Speccy. Subsequently more details/rumors have surfaced.

With Timex computers selling in Portugal, Sir Clive decided to complete the invasion of the Iberian Peninsula. The 128K Spectrum Plus-Plus has been introduced in Spain! But don't bother to try to import one unless you like to read error codes such as "Enteró fuera de rango". Looks like Clive is now also heading for the South American Market.

The Speccy ++ keyboard is almost the same, but included is a separate 15 button numeric keypad, attached with a coiled cable. The pad sort of looks like a calculator. From the photos it appears to have dedicated math functions. (+\*/-) If it had a track ball it could double as a mouse, but it doesn't so it's been dubbed "the hamster".

The 128 has a RS232 output, that will double as a MIDI music connector, RGB/composite video, TV sound and a new sound chip. At turn on the machine defaults to 128K mode, will switch to 48K mode on command-but not back to 128K-???. The extra 64K is banked switched in 16K chunks, from machine code. Software houses now have the machines in hand and memory maps.

This machine looks like it will be a strong addition to the product line. Introduction in the UK, with a English speaking ROM chip, is rumored for late spring, at about £150.

A portable Speccy, called the "PANDORA" is also expected. No details on this yet. In Greek mythology "Pandoras box" contained all human ills! If that's any hint about the machine Clive can keep it in the UK.

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## T/S RESOURCES - continued

### The "ENIGMA"

Funk and Wagnalls defines ENIGMA as "anything that puzzles and baffles". This definition can easily be applied to Sinclair Research, so maybe its fitting that they have named the next generation of the OL, "The Enigma". From some sketches that appeared in "Your Computer" it sort of looks like a cross between a MAC & PC Jr. Its to have 1 Meg. of RAM, built in dual 3.5" drives, color monitor, modem, and software on RAM. Other bells and whistles include Windows, Icons, and a mouse. Rumors have the introduction in the early summer at about £1000.

### SPECTRUM MOUSE

A "AMX MOUSE Package" is available from "Speedysoft" for \$79.95. This is for the current Spectrum, but my guess is that it will run on a 2068, with emulator, but you will need a BUSS Adapter. The package includes some elaborate software. There is a full page add in the Oct. Sinclair User.

### Printer Bargain

DAK is now selling the "Gorilla/Banana" printer for \$89.90.

### DISK DRIVES

AMDEK 3" dual disk drives with power supply and case are available from "Peripherals Direct, Ltd. in Northbrook Ill. at approx. \$125.00. The Amdek drive is very similar to the units used in the Timex/Portugal system. However formatting is slightly different. Ramex is now bundling this unit with their disk interface.

The supply of 3" disks appears to have been replenished and are available from many vendors. Prices vary.

### FOR SALE

Boys 10 speed BICYCLE, 24" wheels, good condition, ideal for a short person. A good Xmas gift. \$50.00. 216-226-4503

\*\*\*\*\*  
HAPPY \*\*\*\*\* HOLIDAYS  
GREATER

\*\*\*\*\*  
\*CLEVELAND\*  
\*\*\*\*\*  
\*\*SINCLAIR\*\*  
\*\*\*\*\*  
\*\*USERS\*\* GROUP \*\*

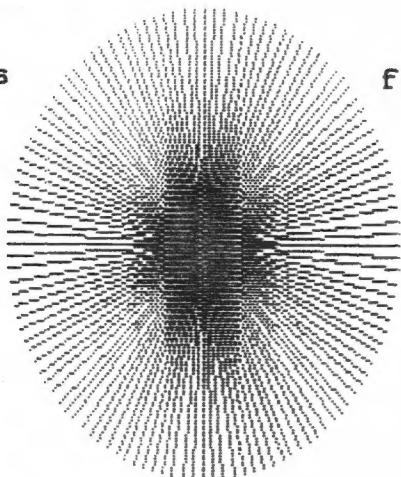
\*\*\*\*\*  
Andy K.

## PLEASE NOTE!!!

THIS MONTH AT THE EAST SIDE MEETING WE WILL HAVE AN INFORMAL CHRISMAS PARTY WITH REFRESHMENTS!!! We hope that EVERYONE FROM BOTH GROUPS WILL ATTEND! It will be on Dec. the 6th. at 7:30 PM in the Euclidian room at the Euclid Square Mall. The Euclidian Room is right to the right as you come in the rear mall entrance by May Co. If you come in from Babitt Rd., just bear to the left and go past May's docks and park by the entrance and come on in!!! We are going to have an AUCTION so bring any equipment you would like to sell! The fee for the sellers is 10% of your finnal selling price or \$5.00 whichever is less.

We also plan to have the drawing for the level metter/switch box that we are raffling. This unit is being built by me and let me tell you, it makes loading tapes a LOT easier! You can load or save from either of 2 recorders as well as make easy tape to tape copies since you can see the true level on the meter! If a company were selling this, the cost would be at least \$30.00! If you haven't got a ticket yet, you may purchase one at the meeting. Good luck! If you win but aren't present, you will be notified. All proceeds go into our treasury to help our group as well as the proceeds from the auction. This is going to be a lot of fun so PLEASE make every effort to attend and why not bring a friend, wife, or girl friend! (maybe get those computer widows involved!)

Try this

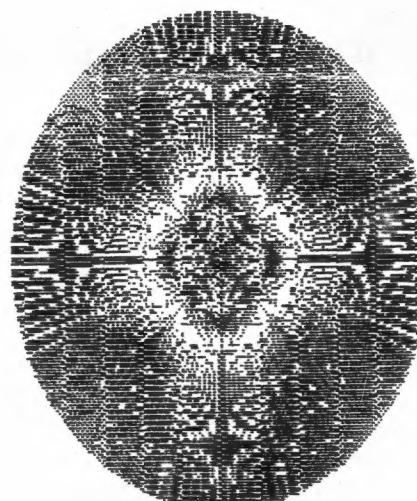


for the 2068.

```

5 FOR a=0 TO 360 STEP 3
10 LET x=80*SIN (a*PI/180)
20 LET y=80*COS (a*PI/180)
25 PLOT 128,87: DRAW x,y
30 NEXT a

```



```

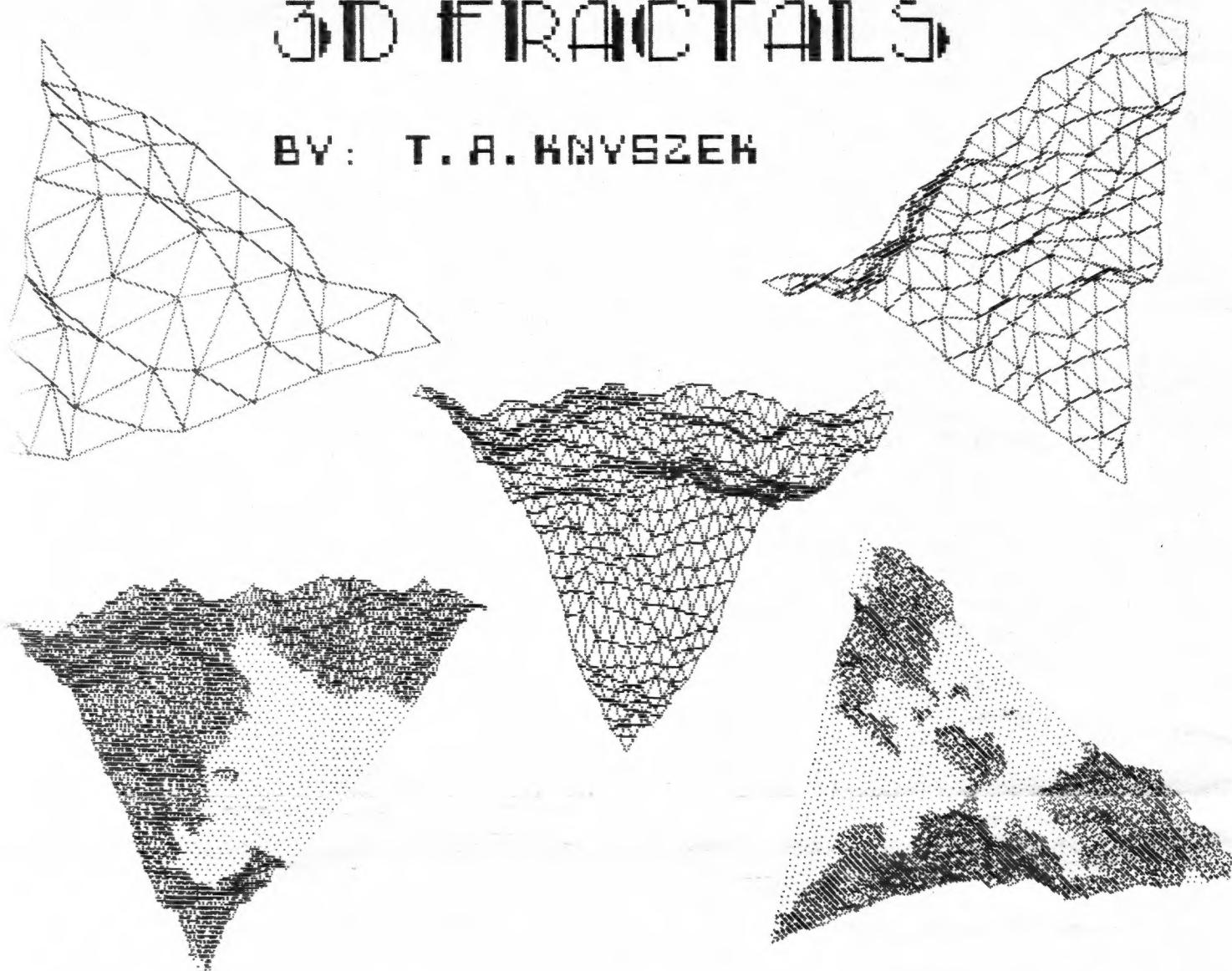
10 OVER 1
20 LET LI=400
30 LET A=0: LET ANG=2*PI/LI
40 FOR I=1 TO LI
50 LET X=85*COS A
60 LET Y=85*SIN A
70 PLOT 128,88
80 DRAW X,Y
90 LET A=A+ANG
100 NEXT I
110 OVER 0

```

This was given to me by Ted Knyszek. See his neat Fractals program! I hope after the trouble that Ted went to, that you all will type it in!

# 3D FRACTALS

BY: T. A. KNYSZER



A new graphics technique called FRACTALS is being used in modelling applications to simulate crystal growth, clouds, and three-dimensional landscapes. We will work on landscapes.

A FRACTAL is an object that is put together by beginning with some basic shape, and then adding or removing fractions of it. First large pieces are removed or added, then smaller pieces, all in random fashion. This is repeated until the desired effect and resolution is achieved.

We will use the triangle as our base figure. At the beginning of the program you are asked at what level you wish to work on. Level-1 will give you 4 triangles, level-2 will give you 16 triangles. Each time you increase the level you quadruple the number of triangles, to a level 6, which gives you 4096 triangles. This is close to pixel size.

To make it more realistic, a sea level is added in line 470. You can use different INK colors for land and sea (lines 1070 and 1090) or use the variable (F1) as a flag to draw lines for fractals above sea level and dots for those below sea level or a combination of both.

ACKNOWLEDGEMENTS: Michielvan de Pamme (Creative Computing Jul 85). Scientific American-Sept. 84. And to Benoit Mandelbrot the father of FRACTAL GEOMETRY.

```

5 REM ***** FRACTALS *****
10 REM Converted from APPLE II
   to TS-2068 by Ted Knyszek
15 BORDER 1: PAPER 5: INK 0: P
PRINT : CLS
20 DIM D(65,33)
30 INPUT "NUMBER OF LEVELS (1-6)": LE
40 LET DS=2*LE+1
50 LET MX=DS-1: LET MY=MX/2: L
ET RH=PI/6: LET VT=-PI/5
51 LET RC=COS (RH): LET RS=SIN
(RH)
52 LET UC=COS (VT): LET VS=SIN
(VT)
60 FOR N=1 TO LE: LET L=10000/
1.8*N
70 PRINT #1;AT 0,0;"WORKING ON
LEVEL ";N
80 LET IB=MX/2+N: LET SK=IB#2
90 GO SUB 150: REM #ASSIGN HEI
GHTS ALONG X IN ARRAY#
100 GO SUB 220: REM #ASSIGN HEI
GHTS ALONG Y IN ARRAY#
110 GO SUB 290: REM #ASSIGN HEI
GHTS ALONG DIAG. IN ARRAY#
120 NEXT N
130 GO TO 640: REM #DRAW#
140 REM # HEIGHTS ALONG X #
150 FOR T=0 TO MX-1 STEP SK
160 FOR K=IB+T TO MX STEP SK
170 LET I=K-IB: LET J=T: GO SUB
370: LET D1=D: LET I=K+IB: GO S
UB 370: LET D2=D
180 LET D=(D1+D2)/2+(RND-.5)*L/
2: LET I=K: LET J=T: GO SUB 420
190 NEXT K
200 NEXT T: RETURN
210 REM # HEIGHTS ALONG Y #
220 FOR K=MX TO 1 STEP -SK
230 FOR T=IB TO K STEP SK
240 LET I=K: LET J=T+IB: GO SUB
370: LET D1=D: LET J=T-IB: GO S
UB 370: LET D2=D
250 LET D=(D1+D2)/2+(RND-.5)*L/
2: LET I=K: LET J=T: GO SUB 420
260 NEXT T
270 NEXT K: RETURN
280 REM # HEIGHTS ALONG DIAG.#
290 FOR K=0 TO MX-1 STEP SK
300 FOR T=IB TO MX-K STEP SK
310 LET I=K+T-IB: LET J=T-IB: G
O SUB 370: LET D1=D
320 LET I=K+T+IB: LET J=T+IB: G
O SUB 370: LET D2=D
330 LET I=K+T: LET J=T: LET D=(D1+D2)/2+(RND-.5)*L/2: GO SUB 42
0
340 NEXT T
350 NEXT K: RETURN
360 REM # RETURN DATA FROM AR
RAY #
370 IF J>MY THEN GO TO 390
380 LET BY=J: LET BX=I: GO TO 4
00
390 LET BY=MX+1-J: LET BX=MX-I
400 LET D=D(BX+1,BY+1): RETURN
410 REM # PUT DATA INTO ARRAY
420 IF J>MY THEN GO TO 440
430 LET BY=J: LET BX=I: GO TO 4
50
440 LET BY=MX+1-J: LET BX=MX-I
450 LET D=D(BX+1,BY+1)=D: RETURN
460 REM # PUT IN SEA LEVEL HE
RE #
470 IF X0<-999 THEN GO TO 500
480 IF ZZ<0 THEN GO SUB 1670: L
ET Z2=ZZ: LET ZZ=0: GO TO 620
490 GO SUB 1000: GO TO 610
500 IF ZZ>0 AND ZZ>0 THEN GO TO
610
510 IF ZZ<0 AND ZZ<0 THEN LET Z
2=ZZ: LET ZZ=0: GO TO 620
520 LET U3=ZZ/(ZZ-Z2): LET X3=(X2-XX)+U3+XX: LET Y3=(Y2-YY)+U3+
YY: LET Z3=0

```

```

530 LET ZT=ZZ: LET YT=YY: LET X
T=XX
540 IF ZZ>0 THEN GO TO 590
550 REM # GOING INTO WATER #
560 LET ZZ=Z3: LET YY=Y3: LET X
X=X3: GO SUB 950
570 GO SUB 1070: LET ZZ=0: LET
YY=YT: LET XX=XT: LET Z2=ZT: GO
TO 620
580 REM # COMING OUT OF WATER
590 LET ZZ=Z3: LET YY=Y3: LET X
X=X3: GO SUB 950
600 GO SUB 1090: LET ZZ=ZT: LET
YY=YT: LET XX=XT
610 LET Z2=ZZ
620 LET X2=XX: LET Y2=YY: RETUR
N
630 REM # DISPLAY HERE #
640 GO SUB 1110: REM # SET UP
PLOTTING DEVICE ON SCREEN #
650 LET XS=.84: LET YS=.84: LET
ZS=.84: REM # SCALING FACTORS
660 FOR I=0 TO MX: LET X0=-999:
FOR J=0 TO I
670 GO SUB 370: LET ZZ=D: LET Y
Y=J/MX#10000: LET XX=I/MX#10000-
YY/2
680 GO SUB 940: NEXT J: NEXT I
690 FOR J=0 TO MX: LET X0=-999:
FOR I=J TO MX
700 GO SUB 370: LET ZZ=D: LET Y
Y=J/MX#10000: LET XX=I/MX#10000-
YY/2
710 GO SUB 940: NEXT I: NEXT J
720 FOR G=0 TO MX: LET X0=-999:
FOR H=0 TO MX-G
730 LET I=G+H: LET J=H: GO SUB
370: LET ZZ=D: LET YY=J/MX#10000
740 LET XX=I/MX#10000-YY/2: GO
SUB 940: NEXT H: NEXT G
750 GO TO 1130: REM # DONE PL
OTTING, GOTO END LOOP #
760 REM # ROTATE #
770 LET OX=XX
780 LET XX=XX+RC-YY+RS
790 LET YY=OX+RS+YY+RC
800 RETURN
850 REM # TILT DOWN #
860 LET OX=XX
870 LET XX=UC*XX-US*ZZ
880 LET ZZ=VS*OX+UC*ZZ
890 RETURN
930 REM # MOVE OR PLOT TO (XP
,YP) #
940 GO SUB 470
950 LET XX=XX*XS: LET YY=YY*YS:
LET ZZ=ZZ*ZS
960 GO SUB 770: REM # ROTATE
970 GO SUB 860: REM # TILT UP
990 LET XP=INT (YY)+1: LET YP=I
NT (ZZ)
1000 GO SUB 1030
1010 RETURN
1020 REM # PLOT LINE HERE #
1030 LET XP=XP#0.55+5: LET YP=17
5-(124-0.7*YP)
1040 IF X0=-999 OR F1=1 THEN LET
X8=XP: LET Y8=YP: LET X0=XP
1045 IF Y8>174 OR Y8<0 OR YP>17
4 OR YP<0 THEN RETURN
1050 PLOT X8,Y8: DRAW (XP-X8),(Y
P-Y8): LET X8=XP: LET Y8=YP: RET
URN
1060 REM # SWITCH TO SEA COLOR
1070 LET F1=1: RETURN : REM ADD
INK-Optional
1080 REM # SWITCH TO LAND COLO
R #
1090 LET F1=0: RETURN : REM ADD
INK-Optional
1110 RETURN
1150 STOP
2000 SAVE "FRACTALS" LINE 15

```

TWO TIPS  
From GABE SCHAFER

Hello everyone, I have had some knowledge that I have been meaning to share with you. That knowledge is: I have found out how to use "VAL\$" and how to get 8 different colors in ONE character!

FIRST THE COLORS  
(For the 2068 only)

I modified Paul Banisik's "Second display file initialize routine" from the April RANTOP (1985), and incorporated it into a BASIC program that would poke attribute values into the second display file. To access this display mode, type "OUT 255,2". In this mode, the computer looks at the first display file (D FILE 1) for character bytes, which means that all you have to do to print a character on the screen is use a simple "PRINT" statement just as if you were in the regular display mode. But the computer looks at the second display file (D FILE 2) for the attributes, which enables you to have 8 colors in one character (don't forget that display file 2 is set up just like the first display file, 8 bytes per character, or in this case 8 colors per character). Also, don't that all of the attributes have to be POKED, (OH GREAT!!!!) and the characters can be either printed or POKED.

NOTES: Do NOT start poking into the second display file until it is CLEARED using Paul's Initialize routine or the system may crash!!!

When you first enter this display mode and the second display file has been cleared, you will see nothing on the screen because the display, or in this case the attribute file, contains zeros. (black ink on black paper)

Here is a DEMO:

```
10 CLEAR 55999: INPUT "Screen color ";s: IF s<0 OR s>255 OR s<>INT s THEN GO TO 10
20 GO SUB 200: POKE 23624,s: RNDOMIZE USR 56000
30 DIM b$(8): FOR a=1 TO 8
40 INPUT "Attribute byte#";(a)
50 b$(a): IF b$(a)<0 OR b$(a)>255 OR b$(a)<>INT b$(a) THEN GO TO 40
60 NEXT a
70 INPUT "Row ";r: IF r<0 OR r>21 OR r<>INT r THEN GO TO 60
80 INPUT "Column ";c: IF c<0 OR c>31 OR c<>INT c THEN GO TO 70
90 INPUT "1character,2bytes to character";ch: IF ch<>1 AND ch<>2 THEN GO TO 80
90 IF ch=1 THEN INPUT "Character";a$: IF LEN a$<1 THEN GO TO 90
100 IF ch=2 THEN GO SUB 170
110 LET g=INT (r/8): LET rc=(2048*g+((r-(g*8))*32))+c
120 OUT 255,2: LET i=1: FOR f=rc+24576 TO rc+24576+1792 STEP 256: POKE f,b$(i): LET i=i+1: NEXT f
```

```
130 IF ch=1 THEN PRINT AT r,c;a
$: GO TO 150
140 LET i=1: FOR f=rc+16384 TO
rc+16384+1792 STEP 256: POKE f,h
(i): LET i=i+1: NEXT f
150 GO TO 30
170 DIM h(8): FOR a=1 TO 8
180 INPUT "Character byte#";(a)
50 b$(a): IF h(a)<0 OR h(a)>255
OR h(a)<>INT h(a) THEN GO TO 180
190 NEXT a: RETURN
200 RESTORE : FOR a=56000 TO 56034: READ b: POKE a,b: NEXT a: RETURN
210 DATA 62,198,211,255,62,3,21
1,244,62,6,205,142,14,62,2,211,2
55,62,0,211,244: REM Paul's
CLEAR second display file
220 DATA 33,0,96,54,s,229,209,1
9,1,255,23,237,176,201: REM
Routine to POKE total second
display file with number
specified.
```

Now for VAL\$  
(for the 2068 or Spectrum)

This is really nothing but a string (\$) version of VAL.  
Try this demo program.

```
10 LET a$="SCREEN$ (0,0)": REM The "SCREEN$" must be the
FUNCTION and NOT spelled out
20 PRINT AT 0,0;"A"
30 PRINT a$
40 PRINT VAL$ a$
50 PRINT VAL$ "SCREEN$ (0,0)"
60 PRINT VAL a$
```

The results should be:

```
A
SCREEN$ (0,0)
A
A
```

With error code C. The first "A" is from the first PRINT statement. The "SCREEN\$ (0,0)" is what you get from PRINTing the contents of a\$. The next "A" comes from printing the VAL\$ of a\$ or executing a\$. The third "A" comes from executing the literal "SCREEN\$ (0,0)" which is equal to the variable a\$. The error code comes from PRINTing the VALue of a\$ which doesn't really have a value in our case but can be only printed or executed.

So if the command has a "\$" at the end, you use: VAL\$. If the command does not have the "\$", use VAL. NOTE: With VAL, you may use any number, a number producing command (within quotes), or a variable. Whereas with the VAL\$ function, you may use a plain string variable (within quotes) or a command that does NOT produce a number (within quotes).

THANK'S GABE! I found this quite helpful myself! Please NOTE:  
The DEMO program for the colors will run on its own without merging it with any other program.

Here is a GREAT article and program from Bret Lanius for the 1000/1500! Bret heads a newsletter in Atlanta Ga. THANKS BRETT!!!

## STAR-TREK

A game for the ZX81 TS1000 This month I'll get you started with some screen displays and instruction on playing the game and the first part of the listing.

You are commander of the Enterprise, Your mission to seek out and destroy the Klingon Fleet that has invaded Federation Space. The Galaxy is divided up into 16 Quadrants and each quadrant is then divided up into 8x8 sectors.

Your available commands are:

- NAV- to navigate your ship
- SHE- Shield control
- LRS- Long range scan
- SRS- Short range scan
- TOR- Torpedo's
- PHA- Phasers
- DAM- Damage control
- STA- Status report
- COM- Computer control

computer	0- Galactic Map
sub commands	1- Game Status report
	2- Torpedo direction tracking

To Navigate from quadrant to quadrant you enter a number from 1 to 8 including decimal for direction and a warp speed from 1 to 8. If you enter a decimal for warp then you will move that many sectors inside the quadrant. WARNING if you go outside the known Galaxy then only a Medusa could get you back.

Shields are always lowered when you dock at a starbase. Which you must do from time to time to stock up on torpedos, refuel and effect repairs. (Moving will also give Scott time to repair things on the run).

The Galactic map starts out empty you must explore the galaxy to gather information for it. You do this by taking a 'LRS' Long Range Scan. It will show 6 quadrants which will look like this:

```
000 10 5
201 8 310
*** *** ***
```

You are in the center position.

If there are Three #'s the first is the number of Klingons in that quadrant. the second is starbases, the third stars.

If only two numbers then starbases and stars.

If only one number ,number of stars.

Three Zeros means unexplored.(only on Galactic map)

Three Stars means you are at the edge of the galaxy and can go no further in that direction.

### Sample of SRS

L R SCAN, GUARD 6 4  
-----  
1 1 103 103  
1 6 106 106  
1 7 107 105

### Sample of LRS

### Sample of Computer Map

卷之三

DEVICE	REPAIR STATE
WARP DRU	000000
WARP CANR	000000
LAUNCHER	000000
PISTOL	000000
TORPEDOES	000000
DAM CONT	000000
SHIELDS	-4,4351356
COMPUTER	0

### Sample of DAMage control

\*\*\*\*\*  
# STARTER KIT  
\*\*\*\*\*  
YOU MUST DESTROY 12 KLINGONS  
IN 30 STARDATES  
WITH 1 STARBASES

TORPEDO COURSE:  
TRACKING

4 3 2  
1000 1000 1000  
KLINGON DESTROYED  
KLINGON ATTACK  
0000 UNIT HIT ON ENTERPRISE  
SECTOR 8 7

Sample of TORpedo tracking

CONDITION RED  
STARDATE 06000  
QUADRANT UNKNOWN  
SECTOR 8 UNKNOWN  
TORPEDOS 100  
ENERGY 10000  
SHIELDS 1000

4 3 2  
1000 1000 1000  
MAXIMUM WARP 8 5 4  
1000 1000 1000  
6 7 8

Sample of STAus

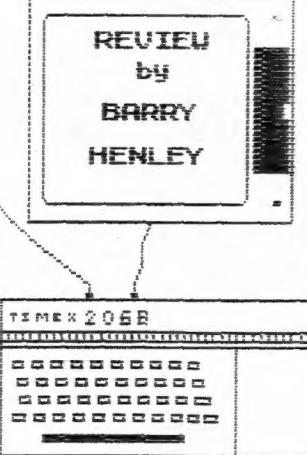
STATUS REPORT

KLINGONS LEFT = 000  
STARDATES LEFT = 000.799999  
STARBASES LEFT = 000

KLINGONS LEFT = 00  
STARDATES LEFT = 000.799999  
STARBASES LEFT = 00  
YOU WERE CARELESSLY DESTROYED

DO YOU WISH ANOTHER MISSION

Sample of end of game screen



Program Name: Taswide  
Price: \$14.95  
Manufacturer: Tasman Software  
From: E.A. Brown

So you've been using one of the word processing programs that use a 64 column display for a while and you've thought how nice it would be to be able to use the 64 column mode in other programs. You blow the dust off your Timex 2068 Technical Manual to find that it's a lot more difficult than you expected.

Now there's an easier way. There's TASWIDE. Taswide is a short utility program that can be added to just about any 2068 program that's written in basic. It's very easy to use. You can even mix 64 column lines with 32 column lines on the same screen. Even the AT and TAB commands go to 64 now. I've not found a way to LPRINT 64 columns to the 2040 printer, but a screen COPY will. The only problem I've encountered is that Taswide is stored in the same memory area as the AERCO CPI driver software. The only way to get around this is to get a copy of the relocatable CPI software. This program really adds some versatility to the T/S 2068 and I think it's well worth the money.

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Our Friend Eric Yruegas sent this  
to me. THANKS! ERIC!  
ONLINE-----by Eric Yruegas

This month I was rattin' around my program files and found a few programs that I haven't used in a while. I thought that I'd share them with you.

The first is a short machine code routine that makes bold characters on the screen. If you call the routine repeatedly, the character set becomes thicker each time. To access the bold characters, use POKE 23607,250. To restore the regular character set use POKE 23607,60.

9905 CLEAR 64499: RESTORE 9910: FOR N= 65507 TO 65529: READ  
A: POKE N,A: NEXT N  
9910 DATA 17,0,251,1,0,3,42,54,92,36,126,167,31,192,18,35,19  
,13,32,246,16,244,201

The next one is another machine code routine that scrolls the middle of the screen to the left or right. (actually, it is two routines). The routines can be modified to scroll and third of the screen. a table of what to POKE is given after the BASIC loader program.

USR 65000 = LEFT      USR 65025 = RIGHT

5 CLEAR 64999: FOR N=65000 TO 65049: POKE N,A: NEXT N  
10 DATA 1,0,8,197,33,255,80,14,32,167,203,22,43,13,32,250,62  
,72,188,32,242,193,16,235,201  
20 DATA 1,0,8,197,33,0,72,14,32,167,203,30,35,13,32,250,62,  
80,188,32,242,193,16,235,201

#### POKE TABLE

PART OF SCREEN	POKE 65005	POKE 65006	POKE 65030	POKE 65031
TOP -----	255	72	0	64
middle -----	255	80	0	72
bottom -----	255	88	0	80

The last one that I found is a Search and Replace routine. To use it, enter the character to be replaced and the character it is to be changed to (you could modify it to accept numerical values) and then enter two numbers. The first is the start of the data to be searched and the second is the end of the area to be checked. The program does the rest.

10 CLEAR 65367  
15 FOR N=65368 TO 65397: READ A: POKE N,A: NEXT A  
20 DATA 33,0,0,62,0,70,191,32,2,54,0,245,62,0,189,40,2,24,5,  
62,0,188,40,4,35,241,24,231,241,201  
25 INPUT "ENTER ADDRESS TO START SEARCH -->";START  
30 INPUT "ENTER END ADDRESS -->";END  
35 INPUT "TYPE CHARACTER TO BE REPLACED -->";R\$  
40 INPUT "TYPE CHARACTER FOR ";(R\$);" TO BE CHANGED TO -->";  
S\$

45 POKE 65370, INT(START/256): POKE 67369, START-(PEEK(65370)  
\*256)  
50 POKE 65372, CODE R\$: POKE 65378, CODE S\$  
55 POKE 65388, INT (END/256): POKE 65381,END-(PEEK(65370)\*256)  
60 RANDOMIZE USR 65368

ATTENTION DISK DRIVE OR MICRODRIVE USERS! I have wealth of 6502-based disk utilities and I would like to convert them to the Z-80 system. If you are interested in getting them, write me, for the process is involved.

If you have any comments or questions, write me at:

ERIC YRUEGAS  
4706 LANGLEY AVE.  
WHITEHALL, OHIO 43213

I retyped this from Eric since it was sent to me in the 64 column format on the 2040 paper and I know that many of you have a hard time reading it. I proof read it several times, so I hope that I made no type errors. Here are a couple of other items Eric sent along.

THIS ROUTINE ASSIGNS T\$: THE CURRENT TIME ELAPSED IN MINUTES AND SECONDS, FROM THE TIME LINE 20 WAS EXECUTED.

```
5 DIM T$(6): LET T$="" :"
10 POKE 23673,0
15 POKE 23672,0
20 LET T=INT ((PEEK 23673*256+
PEEK 23672)/60)
25 LET M=INT (T/60): LET S=T-M
*60
30 LET T$(1 TO 2)=STR$ M: IF LEN
STR$ M=1 THEN LET T$(1 TO 2)="0
"+STR$ M
35 LET T$(4 TO 5)=STR$ S: IF LEN
STR$ S=1 THEN LET T$(4 TO 5)=
"0"+STR$ S
40 PRINT AT 11,12;T$
45 GO TO 20
```

```
1 REM HEX-PRINTER
5 LET A$="": LET B$=""
10 INPUT "Starting Point input
? ";X: PRINT AT 0,0;"HEX" HEX"
/TAB 15;"DEC.");AT 1,0;"ADDR" CO
DE");TAB 15;"ADDR.";"-----"
```

```
12 PRINT AT 0,24;"DECIMAL");AT
1,25;"CODE"
15 PLOT 112,0: DRAW 0,175: GO
SUB 55: LET A$=A$+""
20 FOR N=1 TO 3: GO SUB 40: LE
T A$=A$+"": GO SUB 60
25 LET X=X+1: IF X>65535 THEN
LET X=0
27 IF LEN B$>10 THEN LET B$=B$(
TO (LEN B$-1))
30 NEXT N: PRINT A$;TAB 15;X-3
/TAB 21;B$
35 LET A$="": LET B$="": GO TO
15
40 LET J=PEEK X
45 LET Y=INT (J/16): LET Z=J-Y
*16
50 LET A$=A$+CHR$ (48+Y+7*(Y>9
)) +CHR$ (48+Z+7*(Z>9)): RETURN
55 LET J=INT (X/256): GO SUB 4
5: LET J=X-256*J: GO TO 45
60 LET X$=STR$ PEEK X
65 IF LEN X$<3 THEN LET X$=" "
+X$: GO TO 65
70 LET B$=B$+X$+"": RETURN
```

Have you wanted to make multiple printouts from a Tasword file? Have you wanted to modify the help page to reflect the graphic control characters on your printer? Well the answer has been provided from programs originally appearing in the ATSU newsletter by Karl Smith.

To modify Tasword to make multiple printouts enter basic after loading the program and enter the following new lines.....

```
251 LET i=14: PRINT AT i,0; "Number of copies (1)": GO SUB VAL "6000": IF a$="" THEN LET a$= "1"
252 LET k= VAL a$
279 FOR i= 1 TO k
281 NEXT i
```

To modify the help page enter the following program in the immediate mode after entering basic.....

```
FOR i=0 TO 1535: POKE (33280+i), PEEK (54784+i): NEXT i
```

This takes the help page out of machine code and pokes it into a Tasword file. You can now edit it like any normal file. When you are finished you can place your modifications in the program with the following.....

```
FOR i=0 TO 1535: POKE (54784+i), PEEK (33280+i): NEXT i
```

Don't forget to save your modified TASWORD II program.

While struggling with the graphic control codes for Olivetti's national character sets, Dave Hoshor helped me find out that the graphic control codes can be combined with each other and most importantly with ordinary ASCII Characters in a TASWORD file. So a code could be entered in the form of a graphic character and followed by additional information as ASCII characters and the printer will follow the directions as if they were defined in TASWORD's graphic control codes. All you have to know is what codes your printer uses. For example on the Olivetti the double width control code is ESC 3. Defining the graphic space (graphics mode 8) as ESC would mean entering 27, the ASCII character for ESC into Tasword. Now by printing on the screen the graphic space followed by the ASCII character 3 (not the code), the printer will print in double width. While this is not practical for control codes of one or two characters, it may be so for longer codes or ones which are infrequently used.

There is available a patch for the Aerco Interface which will run MTERM II with a full size printer. I have used it and it does work. If you are interested please contact me for a program listing.

The new English Micro Connection catalog is out and it is full of lots of interesting add ons for Sinclair machines. Write to English Micro Connection, 15 Kilburn Court, Rhode Island 02840. Their telephone number is 401-849-3805.

Also with a new catalog is E.A. Brown. I found several items of interest in this catalog. First there was a price reduction on the Westridge modem to \$89.95. Introduced was a new and improved modem program for the 1000 or 1500 which supports downloads and is called the X-Modem 1000. Another new item in the catalog was a 64 column plug in cartridge. Called the OS64 it will support all normal commands and functions. However I do not know if it will support MTERM II, VU-FILE or any of the spread sheet programs.

From Clifford and Associates I recently obtained something called the Z-Link. It is a Spectrum bus adapter, which configures the 2068 bus lines to that of the Spectrum. You can now use Spectrum hardware add ons like the Kempston joystick interfaces, interface 1 and microdrives with it. It is similar to the adapter put out by E.M.C. but not quite as attractive and having a full length 2068 edge connector which the E.M.C. does not, making it difficult to use with add ons like the Currah Microslot. However it is moderately priced at \$22.50. It is available from Clifford and Associates, 13910 Halldale Ave., Gardena, California 90249.

There has been a lot going on with disk drives and the 2068. There have been three on the market so far- The Aerco, the Ramex and the Timex of Portugal drive. Now there is another. Actually it is an interface for your disk drive utilizing bank switching. The two boards together are called Disk Interface A+B which can be purchased in kit form for \$97.95 or fully assembled for \$119.95 post paid. Upgrades on the operating system are promised and documentation is provided. For further information write John Olinger, 11601 Whitby Dr., Cumberland, Indiana 46225.

From G. Russel Electronics comes one of the least expensive hardware add ons for the 2068. It is called a Rom Fix and costs \$3.25 post paid. It is a socket with a resistor pack that fits under the 2068 Exrom to be used with 2068's that use the Rom Switch or have Piggybacked Roms. What it does is enhance compatibility with certain Spectrum Software which will crash otherwise. Valhalla, Snooker and Checkered Flag are such programs. He also carries software for the 1000 & 1500 from Software Farm. Write to Russell Electronics, R.D.1, Box 539, Centre Hall, PA. 16828. tel. # 814-364-1325

For those of you considering upgrades. Sharp's Inc. is offering QL's for \$289. or two for \$279. They also have software for the QL. Write to them at Rt. 10, Box 459, Mechanicsville, VA. 23111. telephone # 804-746-1664 or after 5 at 804-730-9697. Oxford Data, Inc. is offering the Memotech with bundled software including NEW WORD and CP/M, a 1 meg. unformatted drive, RS232 and parallel ports, and something that is not very clear either a 40-80 column RGB card or monitor. If it is the latter it is quite a bargain, but the literature is not too clear. The Memotech is the only non Sinclair machine to have the capability of running Spectrum Programs. The package Oxford Data is offering is priced at \$695. Write to them at 99 Cabot St., Needham, MA. 02194

Finally I am compiling a bibliography for the Spectrum and 2068. If you have a favorite title or titles, please let me know and I'll include them in the list.

Thomas Simon, 615 School Ave., Cuyahoga Falls, Ohio 44221

## Editor's Notes For December

First of all let me wish each and everyone of you the HAPPIEST OF HOLLIDAYS! I hope you all have had a great year and a better one to come. I for one have done OK. I got a new job this year. The only thing is, I am working my rear off! I put in at least 10 hours overtime every week and usually 15 or 20. Due to this, I am requesting that when you send me articles in the future if at all possible, PLEASE send them either on tape, (1000/1500 or 2068), or use the Radio Shack paper in your 2040 printers. The Timex paper is so light that I have to retype the articles. The reason that I ask for them on tape is because I can then reformat them to fit a page very nicely. (Tasword files) This month Tom Simon sent me one this way and it worked out great! If you send a Tasword file, set it up for 32 column. A 32 column can be reset for anything greater with the Justify function but a 64 column can't be reduced. This will save me a LOT of time and assist me in getting you a nicer and more packed but still legible newsletter. Since my 2040 prints real dark, your programs will be nice and legible too! I will be glad to return the tapes to you. You can just give them to me at the West side meeting or you East siders can give them to Tom Jennings or Gene Wilson or any one who attends the West side meetings also. If you don't have a printer or can't send them this way, Send them ANY WAY you can!

As you can see from this issue, many of you sent in some GREAT articles and I sincerely THANK YOU ALL! PLEASE KEEP UP THE GOOD WORK! The biggest reason that our newsletter is this good is due to YOUR support and articles! If you quit sending articles, we will die a quick death just as many publications for Timex and Sinclair have over the past year or two. My address is:

JAMES G. DUPUY 6514

BRADLEY AVE.(DOWN)

PARMA, OHIO 44129

Let's show those turkeys at Timex just what a stupid mistake they made in 1986! Well, keep on Sinclairing and again, let me wish you HAPPY

Here is a nice short program that will calculate a wage table for you. It was written for the 1000 or 1500 but if you change line 115 and line 2000 to POKE 23692,-1 it should run on the 2068 just as well. This was sent in by Dan Ohlrich. THANKS DAN!

```

5 REM WAGE SCALE
20 PRINT "INPUT START OF WAGE
TABLE."
30 INPUT S
40 PRINT "$ ";S
50 PRINT "INPUT END OF WAGE TA
BLE."
60 INPUT E
70 PRINT "$ ";E
75 PAUSE 100
80 CLS
90 GOSUB 1000
100 FOR X=5 TO E STEP .10
110 PRINT AT 21,0;X;AT 21,8;INT
(X*40);AT 21,14;X*173.3;AT 21,2
4;(X*173.3)*12
115 SCROLL
116 LET Y=Y+1
117 IF Y=16 THEN GOSUB 2000
120 NEXT X
130 GOSUB 2000
140 PRINT AT 18,0;;
145 PRINT AT 19,0;;
150 STOP
1000 PRINT AT 18,0;"HOUR      WEEK
MONTH      YEAR"
1010 PRINT AT 19,0;_____
1020 PRINT AT 20,0;;
1025 LET Y=0
1030 RETURN
2000 SCROLL
2010 PRINT AT 21,0;"ENTER ""C"""
TO COPY, "X" TO CONT."
2030 IF INKEY$="" THEN GOTO 2030
2040 IF INKEY$="C" THEN COPY
2050 CLS
2060 GOSUB 1000
2070 RETURN

```

THIS IS A SHORT PROGRAM THAT CALCULATES A TABLE OF WEEKLY, MONTHLY AND YEARLY EARNINGS FROM A GIVEN HOURLY WAGE.

HOUR	WEEK	MONTH	YEAR
8	320	1386.4	16836.6
8.1	324	1403.73	16844.76
8.2	326	1421.06	17052.72
8.3	328	1438.39	17260.68
8.4	336	1455.72	17468.64
8.5	340	1473.05	17676.60
8.6	344	1490.38	17884.56
8.7	348	1507.71	18092.52
8.8	352	1525.04	18300.48
8.9	356	1542.37	18508.44
9	360	1559.7	18716.40
9.1	364	1577.03	18924.36
9.2	368	1594.36	19132.32
9.3	372	1611.69	19340.28
9.4	376	1629.02	19548.24
9.5	380	1646.35	19756.2

ENTER "C" TO COPY, "X" TO CONT.

**Please note that we want all of you at the Dec. East Side Meeting! Don't forget to bring your computer equipment that you wish to sell at the auction!!! (Dec. 6 at the Euclid Square Mall in the Euclidian Room! Please come!!!**

Here is our only Christmas related program. It is a dandy! It was sent to me by Professor Oleg D. Jefimenko. He is a professor of Physics at West Virginia University. You will remember the book review that our friend Joan Kealy wrote last August on his book "30 Music Programs for TS 2068". Professor Jefimenko uses the Timex computers in his teaching! I like his programing style and am hoping that we will see many more articles from him! Thanks, Professor!

#### MUSICAL CHRISTMAS WITH TS 2068

Oleg D. Jefimenko  
17 Lakeview Drive  
Morgantown, WV 26505

Let your TS 2068 help you to celebrate Christmas. Let it play some Christmas music for you. The program presented here will tell your computer how to play three Christmas songs: the lovely "Silent Night," the joyful "Jingle Bells," and the glorious "Joy to the World." The program allows you to select one of the songs for playing and offers a choice of three play modes: play once, repeat the song, or play the song continuously.\*

#### Program Listing

.....  
.....  
.....

\*The program is adapted from author's book "30 Music Programs for TS 2068." Publisher's address: P.O. Box 4132, Star City, WV 26505. Price: \$8.00 + \$1.00 s/h.

```

10 BORDER 4: PAPER 6: CLS : FO
R A=0 TO 12
20 PRINT INK 1;"CHRISTMAS MUSI
C";TAB 17; INK 3;"CHRISTMAS MUSI
C": NEXT A
30 PRINT AT 18,1; PAPER 5;"PRE
65 ""ENTER"" TO SELECT A SONG"
40 PAUSE 0
50 CLS : PRINT PAPER 5;"*****"
TABLE OF CONTENTS *****": PRI
NT ****
60 FOR I=1 TO 3: RESTORE I+200
+800: READ N$: PRINT I;TAB 4;N$:
NEXT I
70 PRINT PAPER 5;AT 20,0;"ENTE
R THE NUMBER OF THE COMPOSI-TION
THAT YOU WANT TO PLAY"
80 INPUT N: CLS : LET Z$=""
90 RESTORE N+200+800: READ N$,
T
100 CLS : PRINT PAPER 5;"*****"
*** NOW PLAYING *****":AT 2
1,0;"*****" NOW PLAYING ****
****"
110 PRINT AT 10,(31-LEN N$)/2;N
$"
120 PRINT PAPER 3; INK 7;AT 20,
0;"TO STOP, PRESS ""SHIFT"" + ""B
REAK"""
130 READ F,U: ON ERR GO TO 170
140 IF F<>99 THEN GO TO 160
150 PAUSE T/U+60: GO TO 130
160 BEEP T/U,F: GO TO 130
170 ON ERR RESET: IF Z$="2" TH
EN RESTORE N+200+810: GO TO 130
180 CLS : PAPER 7: PRINT AT 7,0
;"PRESS ""1"" TO PLAY AGAIN.

190 PRINT "PRESS ""2"" TO PLAY
CONTINUOUSLY."
200 PRINT ;"PRESS ""0"" TO PLAY
ANOTHER SONG."
210 PAPER 6
220 PAUSE 0: LET Z$=INKEY$: IF
Z$="1" OR Z$="2" THEN GO TO 90
230 IF Z$="0" THEN GO TO 50
1000 DATA "SILENT NIGHT",1,8
1010 DATA 7,8/3,9,8,7,4,4,4/3,7,
8/3,9,8,7,4,4,4/3,14,2,14,4,11,4
/3,12,2,12,4,7,4/3,9,2,9,4,12,8/
3,11,8,9,4,7,8/3
1020 DATA 9,8,7,4,4,4/3,9,2,9,4,
12,8/3,11,8,9,4,7,8/3,9,8,7,4,4,
4/3,14,2,14,4,17,4,14,4,11,4,12,
4/3,16,1,12,4
1030 DATA 7,4,4,4,7,4,5,4,2,4,0,
1
1200 DATA "JINGLE BELLS",8
1210 DATA 13,4,13,4,13,4,99,4,13
,4,13,4,13,4,99,4,13,4,16,4,9,4,
11,4,13,4/3,99,4,14,4,14,4,14,4,
14,4,14,4,13,4
1220 DATA 13,4,99,4,13,4,11,4,11
,4,13,4,11,4,99,4,16,4,99,4,13,4
,13,4,13,4,99,4,13,4,13,4,13,4,9
9,4,13,4,16,4
1230 DATA 9,4,11,4,13,4/3,99,4,1
4,4,14,4,14,4,14,4,14,4,13,4,13
,4,99,4,16,4,16,4,14,4,11,4,9,4,9
9,4,21,4,99,4
1400 DATA "JOY TO THE WORLD",2,5
1410 DATA 24,4,23,5,33,21,16,19,
2,67,17,8,16,4,14,4,12,8/3,19,8,
21,2,67,21,8,23,8,67,23,8,24,2,9
9,16,24,8,24,8,23,8,21,8,19,8,19
,5,33
1420 DATA 17,16,16,8,24,8,24,8,2
3,8,21,8,19,8,19,5,33,17,16,16,8
,16,8,16,8,16,8,16,8,16,16,17,16
,19,16/5,99,16,17,16,16,16,14,8
1430 DATA 14,8,14,8,14,16,16,16
,17,16/5,99,16,16,16,14,16,12,8,2
4,4,21,8,19,5,33,17,16,16,8,17,8
,16,4,14,4,12,2

```

Here is an article that first appeared in TS HORIZONS # 12. I thought that is might be of help to you. We ran an article about OPEN and CLOSE quite a while back. This is a bit more detailed. I hope that you find it beneficial. Let me know what you think! I want to put in articles that are of help to YOU.

## 2068 TUTORIAL by Doug Gangi OPEN# and CLOSE#

### Using the OPEN# and CLOSE# Commands on the TS 2068 By Doug Gangi

Many people who use the 2068 have generally no idea what the commands OPEN# and CLOSE# are for and what they can do. These commands were intended for use with the Microdrives, but we can use them an entirely different way.

By using the OPEN# command you open up what is called a 'stream', or the line the data uses to get somewhere. You have 16 streams (0-15) which can be used. The last one (16) is for the 2068's own use.

The parameters for the OPEN# command are as follows:

OPEN#nn, a\$

where nn is any number (0-15) and a\$ is either "k", "s", or "p" ("k" being the keyboard, "s" the screen, and "p" the printer). Normally, streams 0 and 1 both point to "k", stream 2 points to "s", and stream 3 points to "p". OK, you are probably confused by now. Let me now explain what all this means in English.

For starters, I'll define more fully the meaning of the "k", "s", and "p" parameters. "k" stands for keyboard, but on your screen it's the bottom 2 lines (where all the INPUTS are and the error codes are printed). "s" stands for screen and accesses the top 22 lines of the display. "p" is your printer or data port. You can also access a stream by using "PRINT#nn;n#\$" or "INPUT#nn;n\$" (or "n"). (Note: nn can only be "1" in the input case). When you do a normal PRINT, you are using stream 2 (pointing to "s"). When you do an INPUT, you are using stream 0 (pointing to "k"). And when you do an LLIST you are using stream 3 (pointing to "p").

OK. Now I'll explain how to use all this in a sensible way. For temporary use of a stream in a print command, use a PRINT# statement. PRINT#3 will go to the printer, PRINT#3 or 1 will go to the bottom 2 lines of your screen. Incidentally, an LPRINT command does the exact same as the PRINT#3 command did.

Here's how the computer translates the commands you give it:

LPRINT same as PRINT#3  
PRINT same as PRINT#2

You use an OPEN# command to permanently open

up a stream (until you close it). If you are typing in a program and you want to test it out, and say it has some parts where it prints data out to a printer (like a word processor), and you don't want to waste printer paper.

OPEN#3, "s"

This will now make all the commands using stream 3 (LLIST and LPRINT) go to the screen. Or, if you want to do the reverse and you want everything to go to the printer instead of the screen, you do:

OPEN#2, "p"

This will send all the data that is supposed to go to the screen to the printer.

If you want to open up a stream for your own use, you can:

OPEN#nn,a\$

So, if you want to use stream 4 to go to the printer, you just OPEN# it up and tell it to go to the printer with "p".

Finally, if you want, lets say stream 2 to return to normal (after you made it go to the printer), just do:

CLOSE#2

This will close it up and return it to normal.

Commands using stream 0 or 1 ("k")

INPUT

Commands using stream 2 ("s")

PRINT

LIST

Commands using stream 3 ("p")

LPRINT

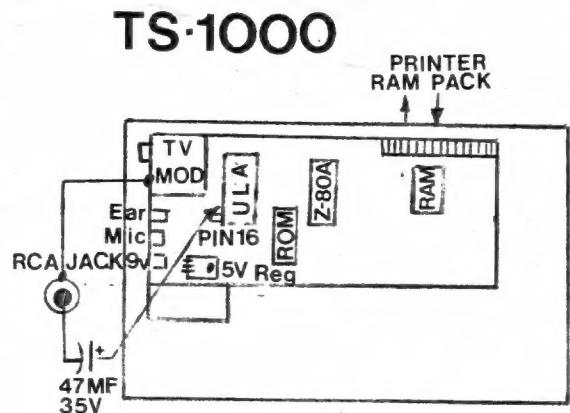
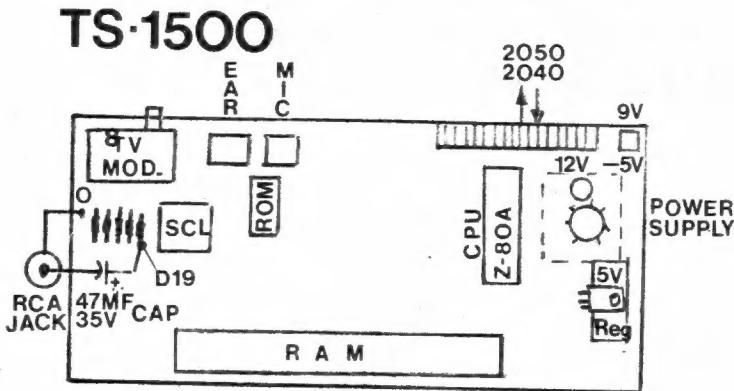
LLIST

Equals:

LPRINT = PRINT#3;  
LLIST = OPEN#2, "p":LIST  
PRINT = PRINT#2;  
LIST = OPEN#3 "s":LLIST  
PRINT = LPRINT#2;

Go ahead and experiment with these commands. They can be very useful in your programs. TSH

Here is a layout guide for the 1500 and 1000. If you would like to add a jack to your computer to get a monitor output, it is very simple! In the case of the 1000, simply solder a 47 MF cap rated at least 16 volt (+ side) to pin 16 of the ULA chip. The other side of the cap (- side) goes to the center of an RCA jack. The sleeve of the jack goes to metal can of the modulator. In the case of the 1500, instead of connecting to the ULA chip, you connect to the lower side of D-19. (it's marked on the board) The other connections are the same. The 1000/1500 actually has a cleaner video than the 2068! It is also fairly easy to convert your B & W TV to a monitor. You should use a TV that is isolated from the AC line. Almost all portable or 12 volt models will work. If you want to do this, give me a call for more details. You may also want to install a Reset switch. If so, refer to the April RAMTOP. DON'T ATTEMPT THIS UNLESS YOU HAVE A BIT OF ELECTRICAL KNOWLEDGE! THIS IS ALSO, AT YOUR OWN RISK!



## SPECTRUM CALLS AND POKEs

Here are a selection of POKEs and ROM calls for the Spectrum that produce some interesting effects without upsetting the machine.

Justin Moffitt

POKE 23756,0	Makes first line line 0
POKE 23756,1	Makes line 0 line 1
POKE 23609,25	Makes keyboard bleep
POKE 23609,0	Makes keyboard silent
POKE 23658,8	Turns CAPS LOCK on
POKE 23658,0	Turns CAPS LOCK off
POKE 23755,100	Disables list command
POKE 23755,0	Re-enables list command
1 POKE 23659,0	Makes 24-line screen
9999 POKE 23659,2	Makes 22-line screen again
POKE 23736,181	Stops the START TAPE prompt

POKE 23692,255	Stops the SCROLL ? prompt
POKE 23613,0	Disables BREAK key, so when it is pressed the program hangs up
POKE 23613,PEEK(23730)-5	Disables BREAK completely
LET t=USR 3582	Scrolls screen one line
LET t=USR 4757	Prints the Sinclair prompt, but does not clear the RAM
LET t=USR 3213	Stops and asks, SCROLL ?
LET t=65536-USR 7962	Prints free memory in bytes
LET t=USR 3583	Scrolls bottom half of screen one line
LET t=USR 3652	Clears top half of screen
LET t=USR 3330	Scrolls whole page to top line, must be followed by CLS
POKE 23617,236	Changes cursor to ?
OUT 10,colour	Changes BORDER colour to f, and gives a CLICK, useful for routine when a game has been won
POKE 23617,14	Changes cursor to _
LET t=USR 1331	Gives special border effect in magenta and blue
LET t=USR 1290	Gives special border effect in blue and red
LET t=USR 1269	Gives special border effect with special sounds
LET t=USR 1251	Gives border effect in green and magenta
LET t=USR 1551	Gives a list of programs on tape
LET t=USR 1248	Gives border effect in white and black
LET t=USR 1333	Gives border effect in cyan and blue
LET t=USR 1327	Gives border effect in white and blue
LET t=USR 1267	Gives border effect in blue and yellow
LET time=(65536*PEEK 23674+256*PEEK 23673+PEEK 23672)/60	Gives time in seconds since the computer was turned on, and only resets for US every four days

### Using the 'border effects'

The border effects give the effect of the save bars in different colours. They only stop after SPACE has been pressed, but some contain a delay loop as well.

For example:

10 PAPER 1:INK 7:LET t=USR 1333:CLS  
15 REM rest of program

TO SUBSCRIBE TO THE RAMTOP, SIMPLY FILL THIS HANDY FORM OUT AND SEND IT ALONG WITH YOUR CHECK FOR \$7.50/6 MO. OR \$15.00/YEAR OR IF YOU ARE OUT OF OUR AREA, THE COST IS \$6/6 MO. AND \$12/ YEAR. MAKE CHECKS PAYABLE TO THE RAMTOP.

*****	*****
***PLEASE PRINT!!! CHECK ONE- 6 MONTH	12 MONTH
*** We publish every month!	***
***	***
***NAME	_____
***	***
***ADDRESS	_____
***	***
***CITY	_____ STATE _____ ZIP _____
***	***
***TYPE OF COMPUTER(S)	_____
***	***
***	***
***OTHER PERIPHERALS	_____
***Mail to: Robert Parish, 12706 Leeila Ave.,	***
***Cleveland, OH 44135	***



Teddy as well as all of us here at the Greater Cleveland Sinclair Users Group hope that you ALL have a GREAT Holliday season! We are all hoping that BIG things happen with the Sinclair line of computers. We also

wish Timex of Portugal all the luck in the world! We are all behind you! We all know that these computers are a very good value so let's show the rest of the world that we WON'T be forced into a different system! If you want this to happen, you must support the companies involved in Sinclair and Timex. TAKE CARE ALL! PLEASE SEE THE NOTES ABOUT THE SPECIAL DEC. EAST SIDE MEETING INSIDE THIS ISSUE!!!

From: The **RAMTOP** The newsletter for:  
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TO:

FIRST CLASS MAIL